

APPENDIX I



HOUSING PRODUCTION AND COST: A REVIEW OF THE RESEARCH LITERATURE.

INTRODUCTION

The housing affordability challenges in Seattle have many similarities to those faced in other rapidly growing cities with high housing demand such as San Francisco, Los Angeles, New York, and Boston. Local policy debates over how to respond to these challenges often focus on the relative importance of two different strategies. The first strategy emphasizes preserving existing affordable housing and the development of new subsidized affordable housing. The second strategy focuses on reducing barriers to the production of new market-rate housing in order to increase both the diversity of the housing stock and total housing supply.

The Action Alternatives considered in this DEIS include each of these two broad strategies. Section 3.1.2 presents an analysis of the potential impacts that new affordable housing production will have on the supply of affordable units. This section also includes estimates of low income households that may be physically displacement due to redevelopment. What that analysis did not address was the potential impacts that an increased supply of housing (as projected in the Action Alternatives) could have on market-rate housing costs. The housing market in Seattle is much too complex to predict such impacts with confidence. However, there has been a great deal of scholarly research that explores the relationships between housing production and housing costs in cities and regions similar to Seattle. This appendix summarizes key findings in this research literature and their relevance to Seattle's affordability challenges.

RELATIONSHIPS BETWEEN HOUSING SUPPLY CONSTRAINTS AND HOUSING COSTS

Nearly all research into housing market economics begin with the assumption that housing costs are determined, in large part, by the interaction of housing supply and housing demand. For instance, if strong job growth in a city is creating high demand for housing, and the supply of housing does not keep

pace with that demand, then housing prices will rise as an increasing number of households compete for a limited number of available homes. Many research studies explore this assumption by examining housing costs in different cities or regions that place different kinds of constraints on the supply of new housing. One kind of constraint is land use controls, or limitations on the allowable uses, heights, and/or density of new development on privately owned land. Economic theory suggests that if constraints reduce the quantity of housing that developers can provide below that of demand, housing prices will increase (Brueckner, 1990; Glaeser and Ward, 2009). Glaeser and Gyourko (2003) and Glaeser, Gyourko, and Saks (2005) argue that the dramatic rise in housing costs in cities such as Seattle is largely due to planning, zoning, and permitting regulations such as designated historic districts and imposing impact fees. By raising hurdles to new development, they argue, local and state governments have made building supply less elastic, or less responsive to increases in housing demand and costs (Cunningham, 2007).

One large body empirical research on this topic focuses at the scale of metropolitan regions and the impacts of regional growth management practices, such as urban growth boundaries. Growth management constrains the amount of land within a metropolitan region that is available for new housing development. In a review of the planning research literature, Addison et al. (2012) found, with few exceptions, growth management is associated with either increased housing prices or decreased housing affordability.¹ However, research by Aurand (2010) indicates these price impacts can be countered by policies to encourage greater density and variety of housing types within the urban growth area—characteristics he found to be associated with greater housing affordability in both Seattle and Portland at the neighborhood scale. Cunningham (2007) also examined the effects of urban growth boundaries in the Seattle area, and while the paper generally supports the economic theory (p. 357), Cunningham also found that urban growth boundaries increased construction inside the boundary and reduced price volatility.²

Growth management is only one kind of constraint that can create barriers to housing construction and housing supply. Gyourko and Molloy

¹ *Relevant papers reviewed by Addison et al include (Nelson, 2000; Carruthers, 2002; Downs, 2002; Anthony, 2003; Anthony, 2006; Woo and Guldmann, 2011). An earlier review of empirical research on the effects of land use regulation on housing by Quigley and Rosenthal (2005, p. 70) finds variation in quality and findings. However, their own research also supports the same conclusion.*

² *It is important to note that Cunningham did not examine the net effect on construction in the region, only the distribution of construction inside and outside the boundary.*

(2015) conducted a comprehensive review of the research literature on the causes and effects of local regulation on housing supply. They define regulation as “any form of government that restricts the number, location, quality, or shape of residential development” (p. 4). According to Gyourko and Molloy, “the vast majority of studies have found that locations with more regulation have higher house prices and less construction” (p. 42). Key studies that examine this theme at the city-scale include Katz and Rosen (1987), Malpezzi (1996), Mayer and Somerville (2000), Quigley and Rosenthal (2005), Glaeser and Ward (2009), and Jackson (2014). These studies vary primarily by type of data available, jurisdictional scale, and location. Gyourko and Molloy identify one of the overall weaknesses in the literature on housing supply regulation to be a lack of “good time series with which to measure changes in regulation” (p. 5); because much of the economic literature on housing and regulation, especially those empirical studies of the effects of regulations on housing supply, uses data from multiple different housing markets taken at a single point in time.

MEASURING THE IMPACTS OF REGULATION ON HOUSING PRICES

Glaeser, Gyourko, and Saks (2005) took a very different approach than the previously reviewed studies in their examination of high housing costs in Manhattan. Between 1960 and 2000, Manhattan experienced a decline in the number of permitted residential units while the borough and region both experienced a sharp increase in real housing prices. They note many other rapidly growing regions experienced flat or declining housing costs during the same time period and argue that Manhattan’s rising housing costs cannot be explained by increased demand alone (p. 332). To understand what else may be contributing to the rising housing costs, the authors use an unusual methodology based on the classic economic assumption that competition reduces prices and profits. They compare the marginal cost of construction to the selling price of multi-family housing in Manhattan. Under economic theory, these numbers should be relatively close in a competitive market. However, the authors found that while estimated construction costs for high-rise housing in Manhattan were relatively high at approximately \$275 per square foot (p. 346), housing sold for an estimated \$500 per square foot (p. 339: Table 1). This is an 80 percent increase in price over marginal production cost.

To identify the source of the difference between the construction cost and selling price, the authors worked to rule out potential explanations.

Any major differences between cost and price, they contend, suggest one or more of the following: measurement errors, non-competitive markets, or external factors are affecting demand and/or supply.³ To rule out measurement error, the authors compared several sources of data on construction costs, including materials, labor, equipment, and soft costs such as architect fees and engineering. To evaluate whether the Manhattan residential construction market is competitive, the authors quantified the number of developers competing in the marketplace for new home development. They identified 100 multi-family housing developers headquartered in Manhattan and 329 located elsewhere in New York City. As the authors note, construction companies do not have to be located in a city to build there, so this underestimates the likely number of multifamily housing construction companies operating in Manhattan. They also consider another possibility, that the technology necessary to build high-rises is concentrated in a small number of developers that could collude to distort the market and drive up profits. The authors also argue against technological limitations based on the almost hundred-year history of building high-rises in Manhattan. In the end, they conclude “all the available evidence suggests that the housing production industry is highly competitive” (p. 337).

After ruling out measurement error and market competitiveness as explanations, the authors conclude that external factors must be restricting the supply of housing compared to market demand. Unlike much of the other research reviewed for this Appendix, the authors do not attempt separate out individual constraint types or measure the level of constraints present in Manhattan. Instead, they suggest that these external factors “could include a wide variety of quantity controls, zoning rules, taxes, or fees” (p. 336). The authors also consider where the excess amount paid above construction costs is distributed:

“ [A] high ratio of sales prices to construction costs does not imply that developers are making excess profits. On the margin, the benefits of the very high prices should be competed away via legal bills, lobbying fees, the carry costs of invested capital during long delays, or any of the myriad other expenses associated with navigating the city’s regulatory maze. Regulatory barriers essentially function as a tax that

³ Because the analysis considered only the marginal cost of high-rise units, considerations like financing, land value, land preparation, and changes to community character were not included as factors. While land value is a large component of housing costs, it does not contribute to the marginal cost of adding additional floors and additional units to a multi-family building.

adds to the fixed costs of building. While this should not affect the margin concerning how high to build (conditional on building in the first place), it could change the decision of whether to build if the fixed costs are not covered by the return on the building. This is why our evidence is most convincing in accounting for why there are not additional taller buildings in Manhattan. Because we cannot be sure that other, nonregulatory fixed costs also did not rise, we do not claim that all of the sharp drop in construction levels is explained by regulation. (p. 334 fn. 4) 99

Glaeser and Gyourko (2017) use a similar approach of comparing construction costs and sales prices to identify locations with possible market distortions. Their insight is that if housing is competitively supplied, sales prices should largely reflect the production cost of housing plus the consumption value of the land itself. Their estimate of the regulatory “tax” on homes is quite large for West Coast cities, including Seattle, as well as New York and Boston. Of the 98 metropolitan areas included in their study, Seattle the ninth highest ratio of housing price to minimum profitable production cost, putting Seattle in an “expensive market” and very similar to New York (p. 7 and 37 Figure 8).

THE IMPACTS OF HOUSING PRODUCTION AT THE NEIGHBORHOOD SCALE

While reducing constraints on housing production may help reduce housing costs at a regional or city scale, it does not necessarily follow that the same relationship is present at the neighborhood scale. This is because market mechanisms work differently at these different scales. At the regional scale, demand for new housing is determined, primarily, by regional employment growth. Increasing housing supply reduces competition for available housing, pushing down housing costs. However, demand for housing can vary significantly by city and neighborhood based on the kinds of services and amenities available, proximity to employment centers, perceptions of safety. New development in a neighborhood, therefore, has potential to impact demand for housing in that neighborhood by adding amenities and changing the demographic composition. Therefore, by inducing more demand in a neighborhood, more market-rate development could, potentially, also increase housing costs and induce more economic displacement relative to other neighborhoods. This theory is consistent with the findings of an empirical study of urban revitalization in New York City, where the city built more than 180,000 housing units in distressed neighborhoods (Schill, Ellen, Schwartz, A., and Voicu, 2002).

The authors found an increased in housing values and increased housing cost burdens among renters in affected neighborhoods.

Zuk and Chapple (2016) explore the relationship between market rate housing production and affordability at the neighborhood scale in a study of the San Francisco Bay Area housing market. They find increased housing market production is associated with reduced displacement in an analysis of all census tracts regionwide. However, when they compared findings to an analysis of census block groups in the City of San Francisco only, they found market-rate housing production has no significant effect on the likelihood displacement. They conclude that in cities with very high levels of housing demand, such as San Francisco and Seattle, increased market rate housing production is an important but insufficient strategy for improving housing affordability and reducing displacement pressure. Their study also examined the role of subsidized housing production and found that increased subsidized housing reduces the displacement of low income households at the neighborhood scale.

Other studies have examined the role that increasing the density of housing in neighborhoods can have on housing affordability. In a study of the Seattle and Portland regions referenced above, Aurand (2010) found that neighborhoods with greater density were more likely to include rental units affordable to households earning 50 percent AMI. However, he found that diversity of housing stock had an even stronger relationship to housing affordability. Neighborhoods with a greater variety of different housing types (single family, townhouses, small multi-unit structures, and larger multi-unit structures) were even more likely to include affordable rental units. The study concludes that cities should allow for and encourage a greater variety of housing unit types in areas that are receiving new growth.

CONCLUSIONS

Previous research in the planning and housing economics literature suggests that if housing production in Seattle were to increase, as projected in the Action Alternatives, it would have a positive impact on housing affordability citywide when compared to the No Action alternative. However, these impacts may vary by neighborhood. It is possible increased development in some neighborhoods with relatively lower housing costs and lower housing demand could change the character of those neighborhoods, influencing the level of housing demand. This could, in some cases, result in a situation where housing costs increase more rapidly in that neighborhood than would be the case if the neighborhood experienced significantly less new growth, assuming no change in the amount of housing growth citywide.

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